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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,596	06/27/2003	Joseph W. Forbes JR.	4A07.1-011	2277
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PETER O. ROACH JR. 1150 IVES CT. ATLANTA, GA 30319			EXAMINER SAINDON, WILLIAM V	
			ART UNIT 3623	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/608,596	Applicant(s) FORBES ET AL	
	Examiner William V. Saindon	Art Unit 3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following NON FINAL Office Action is in response to Applicant's submission received June 27, 2003. Claims 1-20 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Comer (US 5,873,043).

As to claim 1, Comer discloses a system for assessing market potential for wireless service within a service area, comprising:

a wireless test radio configured to mimic the air interface of a wireless communication system interface by transmitting autonomous registration signals to wireless units within the service area, and by receiving registration messages from responding wireless units within the service area (see col. 12, lines 29-47, describing data reporting devices that collect data from the control channel of cellular systems);

a database configured to store information associated with the registration messages (see col. 13, lines 14-33, noting the data collection system holding the collected messages in memory); and

a host computer system configured to analyze the information stored in the database to determine the market potential for wireless service within a service area (see id., noting that computers are configured to analyze data).

As to claim 2, Comer discloses the test radio is further configured to transmit a query message to a responding wireless unit to obtain additional information about the responding wireless unit (see col. 12, lines 29-47, noting that the monitor obtains and records selected data from devices that the monitor has been in connection with; see also col. 9, lines 1-13, noting that the monitored device was paged [queried]).

As to claim 3, Comer discloses the host computer system is further configured to use the information received from a responding wireless unit to obtain additional information about the responding wireless unit from an information source other than the wireless unit (see col. 13, lines 14-34, noting that data collection system can process the selected data to obtain further information concerning the data source; see also col. 14, lines 6-28, noting that cellular systems query database to check if a particular wireless unit is a 'roamer').

As to claim 4, Comer discloses the host computer system communicates with the information source over the wireless system, a public switched telephone network, a data network, or the Internet (see col. 13, lines 14-34, noting that communication links can be by conventional telephone, data link, or wireless links).

As to claim 5, Comer discloses the information source comprises a wireless system clearinghouse (see col. 14, lines 6-28, noting that the 'roamer' database is a

clearinghouse detailing whether or not a unit is allowed to communicate on that network).

As to claim 7, Comer discloses the database stores records for each responding device indicating a directory number, equipment identifier, a home system identifier, and most recent registration identifier associated with the responding wireless unit (see col. 10, line 46 to col. 11, line 45, describing the basic data cell phones have, including a phone number, equipment id, home unit identification, and last known area information).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Comer as applied to claim 3 above, and further in view of Chen et al. (US 2004/0095237) (hereinafter Chen).

As to claim 6, Comer fails to explicitly disclose, and Chen discloses the information source comprises a credit report server (Chen ¶ 66, item 1856).

It would have been obvious to a person having ordinary skill in the art at the time of invention that Comer would access a credit report server, as taught in Chen, for the purpose of deciding whether or not a particular customer was financially trustworthy.

7. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comer as applied to claim 1 above, and further in view of Johansson (US 5,946,612).

As to claims 8 and 9, Comer fails to explicitly disclose, and Johansson discloses the test radio is further configured to cause a responding wireless unit to seek registration with a different wireless system after receiving the registration message from the responding wireless unit by transmitting a message indicating that wireless service is not available through the test radio (Johansson col. 9, lines 33-56, noting that the rejection causes the wireless unit to seek registration elsewhere by indicating that it is not available).

It would have been obvious to a person having ordinary skill in the art at the time of invention that the test radio in Comer would be configured to divert wireless units, as taught in Johansson, because the test radio is not an actual radio and cannot perform

the function for which these wireless units register. By transferring to a working radio, the system will prevent misleading customers or causing bad will.

8. Claims 10-14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comer in view of Ralf R. Collmann, "Evaluation of Methods for Determining the Mobile Traffic Distribution in Cellular Radio Networks," IEEE Transactions on Vehicular Technology, Vol. 50, No. 6, p. 1629 (Nov. 2001) (hereinafter Collmann).

As to claim 10, Comer discloses:

deploying a wireless test radio configured to mimic the air interface of a wireless communication system interface (see col. 12, lines 28-47, noting the use of monitors communicating with cellular devices);

transmitting autonomous registration signals from the test radio to wireless units within the service area (see id., noting the control channels are used by the monitor);

receiving registration service area from responding wireless units within the service area (see id., noting the cellular devices send the control data);

storing information associated with the registration messages in a database (see col. 13, lines 14-36, noting that the messages are stored in a data collection system);
and

Comer fails to explicitly disclose, and Collmann discloses: analyzing the information stored in the database to determine the market potential for wireless service within a service area (Collmann at 1629, noting that a dummy station [test radio] is set

up to monitor network usage for the purpose of determining how busy the particular area is).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of invention to take the wireless test radio in Comer and use the market potential analysis in Collmann because the knowledge of the real traffic distribution is a key factor in adapting any network design. Wireless carriers satisfy customers when they provide enough capacity to allow customers to use the system without delays or busy system signals.

As to claim 11, Comer discloses transmitting a query message to a responding wireless unit to obtain additional information about the responding wireless unit (see col. 12, lines 29-47, noting that the monitor obtains and records selected data from devices that the monitor has been in connection with; see also col. 9, lines 1-13, noting that the monitored device was paged [queried]).

As to claim 12, Comer discloses using the information received from a responding wireless unit to obtain additional information about the responding wireless unit from an information source other than the wireless unit (see col. 13, lines 14-34, noting that data collection system can process the selected data to obtain further information concerning the data source; see also col. 14, lines 6-28, noting that cellular systems query database to check if a particular wireless unit is a 'roamer').

As to claim 13, Comer discloses communicating with the information source over the wireless system, a public switched telephone / network, a data network, or the

Internet (see col. 13, lines 14-34, noting that communication links can be by conventional telephone, data link, or wireless links).

As to claim 14, Comer discloses the information source comprises a wireless system clearinghouse (see col. 14, lines 6-28, noting that the 'roamer' database is a clearinghouse detailing whether or not a unit is allowed to communicate on that network).

As to claim 16, Comer discloses the database stores records for each responding wireless device indicating a directory number, equipment identifier, a home system identifier, and most recent registration identifier associated with the responding wireless unit (see col. 10, line 46 to col. 11, line 45, describing the basic data cell phones have, including a phone number, equipment id, home unit identification, and last known area information).

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Comer and Collmann as applied to claim 13 above, and further in view of Chen.

As to claim 15, Comer and Collmann fail to explicitly disclose, and Chen discloses: the information source comprises a credit report server (Chen ¶ 66, item 1856).

It would have been obvious to a person having ordinary skill in the art at the time of invention that Comer would access a credit report server, as taught in Chen, for the purpose of deciding whether or not a particular customer was financially trustworthy.

Financial trustworthiness would be a key indicator that a customer would be able to pay

his or her bill, and monitoring such credit would be a proactive way to keep from losing money to a customer who cannot pay.

10. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comer and Collmann as applied to claim 10 above, and further in view of Johansson.

As to claims 17 and 18, Comer and Collmann fail to explicitly disclose, and Johansson discloses: the test radio is further configured to cause a responding wireless unit to seek registration with a different wireless system after receiving the registration message from the responding wireless unit by transmitting a message indicating that wireless service is not available through the test radio (Johansson col. 9, lines 33-56, noting that the rejection causes the wireless unit to seek registration elsewhere by indicating that it is not available).

It would have been obvious to a person having ordinary skill in the art at the time of invention that the test radio in Comer would be configured to divert wireless units, as taught in Johansson, because the test radio is not an actual radio and cannot perform the function for which these wireless units register. By transferring to a working radio, the system will prevent misleading customers or causing bad will.

11. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Comer in view of Hagström et al., (US 5,613,217) (hereinafter Hagström).

As to claim 19, Comer discloses:

deploying a wireless test radio configured to mimic the air interface of a wireless communication system interface at a first potential base station location (see col. 12, lines 28-47, noting the use of monitors communicating with cellular devices);

transmitting autonomous registration signals from the test radio at the first potential base station location to wireless units (see id., noting the control channels are used by the monitor);

receiving a first set of registration messages from responding wireless units (see id., noting the cellular devices send the control data);

storing information associated with the first set of registration messages in a database (see col. 13, lines 14-36, noting that the messages are stored in a data collection system);

Comer fails to explicitly disclose, and Hagström discloses:

deploying the wireless test radio at a second potential base station location (Hagström col. 3, line 65 to col. 4, line 2, noting that several test locations are monitored);

analyzing the information stored in the database to determine whether the first or second potential base station location is a preferred base station location (id., noting that several locations are monitored for the purpose of determining the location with the most traffic, thereby being preferred over lower traffic locations).

It would have been obvious to a person having ordinary skill in the art at the time of invention to use the test radio in Comer in several locations and analyzing information

from each location to determine a best location, as taught in Hagström, for the purpose of saving costs by deploying the most optimal location for base stations.

12. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Comer and Hagström as applied to claim 19 above, and further in view of Johansson.

As to claim 20, Comer and Hagström fail to explicitly disclose, and Johansson discloses: the test radio is further configured to cause a responding wireless unit to seek registration with a different wireless system after receiving the registration message from the responding wireless unit by transmitting a message indicating that wireless service is not available through the test radio (Johansson col. 9, lines 33-56, noting that the rejection causes the wireless unit to seek registration elsewhere by indicating that it is not available).

It would have been obvious to a person having ordinary skill in the art at the time of invention that the test radio in Comer would be configured to divert wireless units, as taught in Johansson, because the test radio is not an actual radio and cannot perform the function for which these wireless units register. By transferring to a working radio, the system will prevent misleading customers or causing bad will.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Iizuka (US 6,246,880) discloses a system for measuring wireless demand by taking data from base stations and applying optimization formulas.

Smith et al. (US 6,501,950) disclose a system for monitoring wireless signals that includes detailed information about each transmission and wireless unit.

Evans et al. (US 6,311,060) disclose a system for registering the location of a wireless unit.

Cromer et al. (US 7,203,183) disclose a system that monitors wireless usage and forces units to transfer to other access points if usage gets too high.

Lancos et al. (US 2002/0077883) disclose a system for accumulating marketing data wirelessly from guests wearing RFID tags.

Frangione et al. (US 2003/0229534) disclose a system for analyzing market data in a mobile communications system by contacting particular mobile devices.

Ramous et al. (US 2004/0039809) disclose a system for determining wireless demand by analyzing stored network data.

Gainsboro et al. (US 2001/0036821) disclose a method for monitoring and reporting wireless communications.

Broyles et al. (US 7,142,868) disclose a system for determining wireless demand by using current wireless system traffic.

Lidbrink et al. (US 6,466,767) disclose a system for determining the position of wireless base stations by monitoring wireless signals.

Konny Zsigo, "Uncovering data's payoff," Cellular Business, vol. 14, no. 7, p. 52 (Jul. 1997), discloses the use of control channel polling for messaging.

Charlie Schmidt, "The road ahead," Tech. Rev., vol. 104, no. 6, p. 72 (Jul/Aug 2001), discloses tracking wireless data for market research purposes.

Simon de la Hoyle, "Targeting the consumer," Telecommunications, vol. 34, no. 4, p. 107 (Apr. 2000), discloses using spatial information in combination with wireless usage data for marketing purposes.

Kurt Tutschku, "Demand-based Radio Network Planning of Cellular Mobile Communication Systems," IEEE (1998), discloses various approaches for demand based cellular planning methods.

Göran Swedberg, "Ericsson's mobile location solution," Ericsson Review No. 4 (1999), discloses using wireless data for positioning applications, such as network planning in order to determine hot-spot tracing [market demand].

V. Wille & A. King, "Microcellular Planning Based on Information from the Radio Network," IEEE (1998), disclose using information reported by mobile phones for analysis of base station location placement.

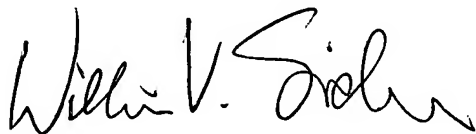
Diane Tang & Mary Baker, "Analysis of a Metropolitan-Area Wireless Network," 8 Wireless Networks 107 (2002), disclose tracing mobile phone use to determine wireless network demand.

Paul Desmond, "BellSouth service turns a little data into a big gain," Network World, vol. 13, no. 51, p. 21 (Dec. 16, 1996), discloses the Cellemetry service, which use wireless test radios to transmit autonomous registration messages to wireless units in the area, and receives registration messages through control channels.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William V. Saindon whose telephone number is (571) 270-3026. The examiner can normally be reached on M-F 7:30-5; alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



William V. Saindon



BETH VAN DOREN
PRIMARY EXAMINER